AVEVA Pipe Stress Interface - R2

User Manual

Version 2.2.1

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Change documentation

Datum	*Bemerkung*
18th November 2005	Complete Revision of the documentation
20th January 2006	Correction of format errors in the documentation
12th January 2007	Revision of transfer conditions of ATTA elements
3rd April 2007	Revision of the description concerning the conditions of when and which hanger types are transferred
13th July 2007	Update to PDMS 11.6
08th October 2007	User Manual in English
09th June 2009	Upgrade to PDMS 12
24th November 2011	Redesign of Import Displacement Form Multiple wall thicknesses
29th March 2013	Form to use catalogue data for supports added.
30. June 2013	Consolidated Pipe Stress Interface - R2
14. February 2014	Form redesign and new functionality
05. March 2015	Corrections

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1. General Remarks

1.1 Works (is compatible) with

AVEVA Pipe Stress Interface - R2 works with AVEVA PDMS version 12.1 and AVEVA Everything3D™ version 1.1.

Rohr2 is required in version 30.2a or higher version.

1.2 General

In this document AVEVA PDMS and AVEVA Everything3D™ will be herein referred to as AVEVA Design Products.

1.3 Introduction

Target of the interface between AVEVA Design Software and Rohr2 is an efficient link between both programs. In order to achieve that all required pipe data are transferred from AVEVA DESIGN PRODUCTS to Rohr2. After the stress calculation in Rohr2 the resulting modifications can be transferred to the AVEVA DESIGN PRODUCTS and can be shown in the model. For the transfer back to the AVEVA DESIGN PRODUCTS it is also necessary to use the Rohr2 internal interface. It is also possible to transfer the stress data from Rohr2 to the AVEVA DESIGN PRODUCTS in order to use them for hanger and support calculations.

Rohr2 can be acquired from:
Sigma Ingenieurgesellschaft mbH.
Bertha-von-Suttner-Allee 19
59423 Unna
Germany

1.4 Prerequisites

1.4.1 AVEVA DESIGN PRODUCTS

In order to use the interface, additional User Defined Attributes (UDAs) and also additional catalogue data is needed.

The UDA macro file (lexicon_pdms_psi_r2_uda.mac) contains the attributes for loads and forces. The catalogue macro file (paragon_pdms_psi_r2_catalog.mac) contains parameterised NOZZle components which are used for the geometry display of the imported pipes.

The UDAs and the Catalogue Data is provided as Database Listings files. Both files are located in the installation path below pdmsdata.

For the Database Listings files two databases have to be provided:

- Dictionary DB (type dict, access update)
  lexicon_pdms_psi_r2_uda.mac
- Catalogue DB (type cata, access multiwrite)
  paragon_pdms_psi_r2_catalog.mac

Please make sure that the databases are included in every MDB.

1.5 Settings and definitions

PSI-R2 application files must be included into the environment variable search paths for PMLLIB and PMLUI/PDMSUI in the AVEVA DESIGN PRODUCTS entry scripts.

AVEVA PDMS

PDMSUI The search path for PML1 macros. If this is already set, add the pathname to the directory containing the PSI-R2 application-ware PML1 macros.
Example:
set **pdmsui**=%pathToPSI-R2%**pdmsui** %**pdmsui**%.

PMLLIB The search path for PML2/PML.Net macros. If this is already set, add the pathname to the directory containing the PSI-R2 application-ware PML2 macros.
Example:
set **pmllib**=%pathToPSI-R2%\pmllib %PMLLIB%.

AVEVA Everything3D™

PMLUI The search path for PML1 macros. If this is already set, add the pathname to the directory containing the PSI-R2 application-ware PML1 macros.
Example:
set **pmlui**=%pathToPSI-R2%**pdmsui;**%**PMLUI**%.

PMLLIB The search path for PML2/PML.Net macros. If this is already set, add the pathname to the directory containing the PSI-R2 application-ware PML2 macros.
Example:
set **pmllib**=%pathToPSI-R2%\pmllib**;**%PMLLIB%.

CAF_UIC_PATH The path for UIC and XML files.
Example:
set **CAF_UIC_PATH**=%pathToPSI-R2%\PSI-Rohr2-UIC

Only if the environment variable is already set and in use, add the following line
<CustomizationFile Name="PSIROHR" Path="Aveva.PSIRohr.uic" />
in the <UICustomizationFiles> section of the “DesignCustomization.xml” file.

Copy the file Aveva.PSIRohr.uic from the installation path \ PSI-Rohr2-UIC into the directory described with the **CAF_UIC_PATH** environment variable

An example of the file "DesignCustomization.xml"is shown In the installation path \ PSI-Rohr2-UIC.

The communication between AVEVA DESIGN PRODUCTS and Rohr2 is done by ASCII files. These files will be stored in a directory that is declared by the environment variable %R2STRESS%. In addition a project specific environmental variable %xyzR2STRESS%, where xyz is the project code, can be used.

If both environment variables are set and both directories exist, the project specific directory will be used.

Because of project related settings and different displacement files per project it is recommended to use the project specific environmental variable.

The following file extensions are used by the interface to transfer data:

Extension	*Description*	*Direction*
.ntr	File with geometry data	**AVEVA DESIGN PRODUCTS** to **Rohr2**
.ntrerror	Log file for transfer of geometry	
.r2hangprop	File with data for hanger points	**Rohr2** to **AVEVA DESIGN PRODUCTS**
.r2hangerror	Log file for hanger points	
.r2disp	File for displacement data	

1.5.1 Type description for AVEVA DESIGN PRODUCTS hanger

Chapter 5.3 gives an overview of all allowed Hanger-Type in the different UDAs.

1.6 Restrictions

The transfer of geometry data is bound to the allowed type declaration of Rohr2. For example, at the moment it is not possible to transfer tee fittings with three different bores or reducing elbows. Reducers or elbows with an outlet can also not be transferred.

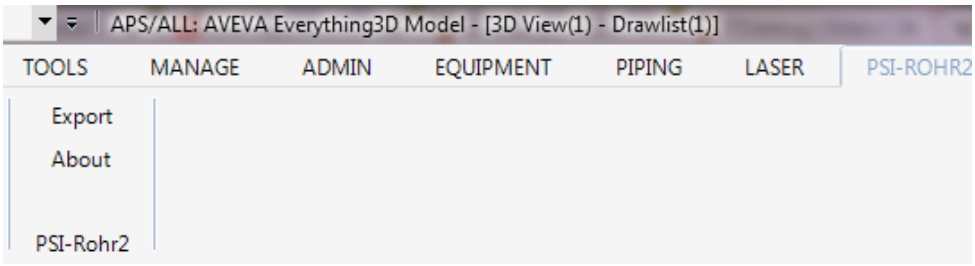
Before transferring pipe systems the user should check that the pipes are consistent concerning geometry or bores. Otherwise problems during the data transfer cannot be excluded.

1.7 Starting AVEVA Pipe Stress Interface - Rohr2

The bidirectional interface is part of the AVEVA DESIGN PRODUCTS Design Piping Application.

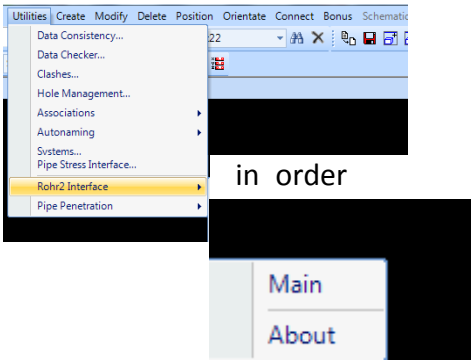
1.7.1 In AVEVA Everything3D™

In Tab ***PSI-ROHR2*** the PSI-R2 commands are grouped in the Piping Application



1.7.2 In AVEVA PDMS

Choose ***Utilities>Rohr2 Interface*** in the Piping Application in order to get the **Rohr2 Interface** submenu.



1.7.3 Available commands:

Main

Show the main interface form.

About

Show the version of the AVEVA Pipe Stress Interface - Rohr2.

2. The Main Form

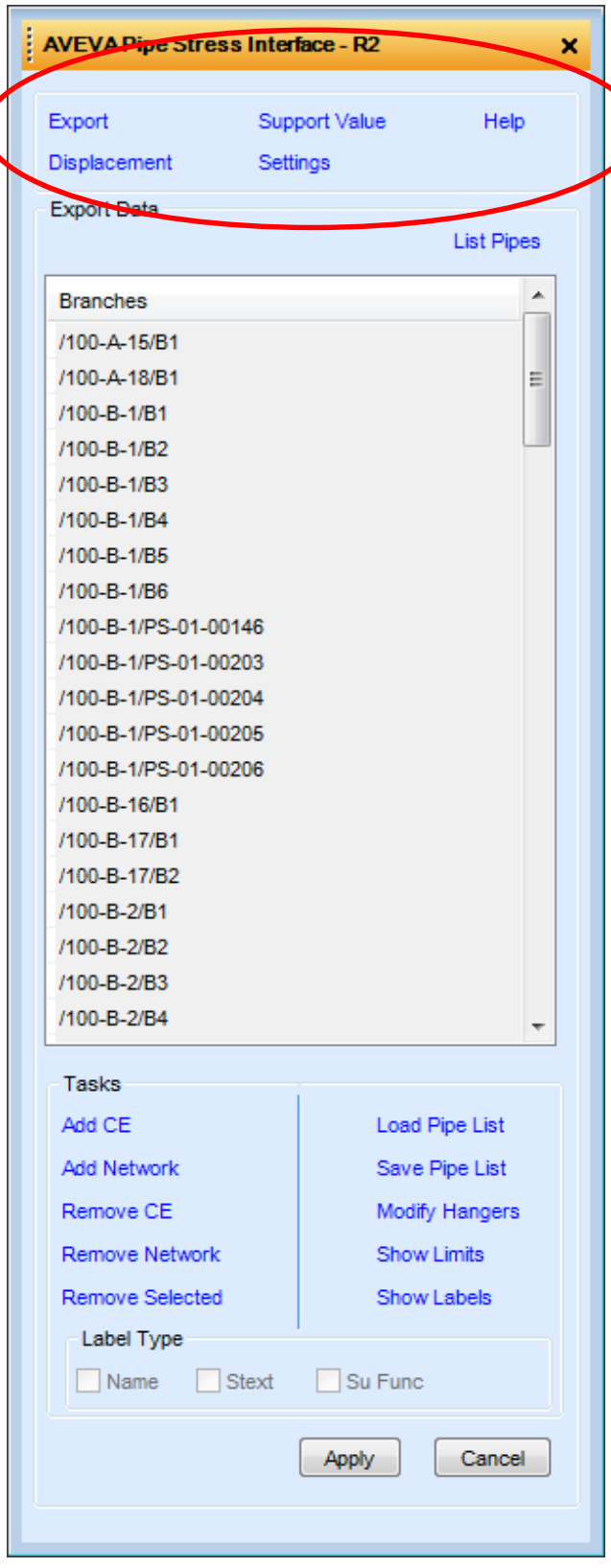
Export Export geometry and material to Rohr2. Switches back to the Export frame

Displacement Switches to Displacement frame in order to create a 3D model for each loading case defined in Rohr2 result file. This 3D model consists of Nozzles that show the displacement of the pipe system. It can be displayed together with the original pipe system.

Support Value Switches to Support Value. It transfer data of pipe supports calculated by Rohr2 to the attributes of the 3D model elements.

Settings Opens the settings form to configure the data transfer between AVEVA DESIGN PRODUCTS and Rohr2.

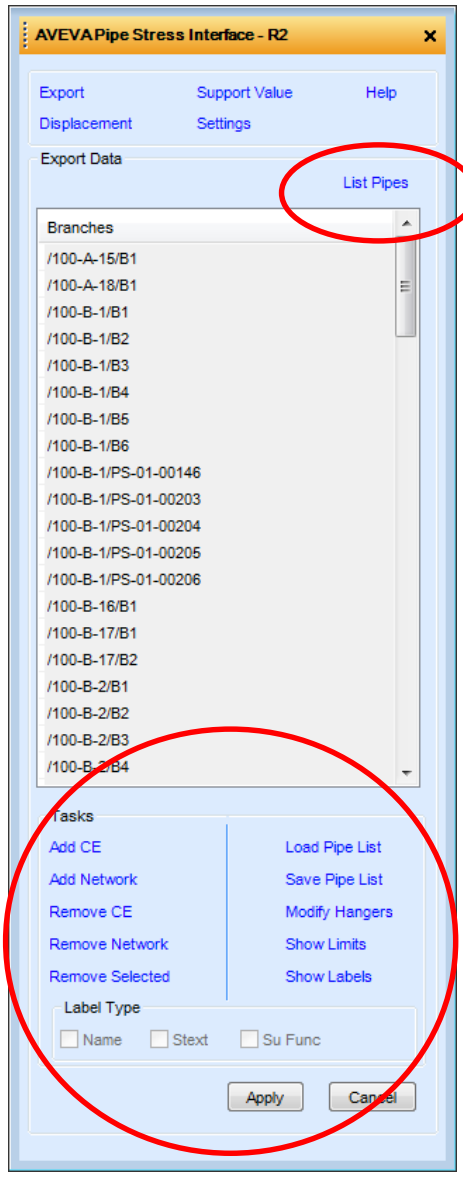
Help Opens this documentation.



3. Transfer of geometry from AVEVA DESIGN PRODUCTS to Rohr2

3.1 Collecting the pipe system

3.1.1 Main frame



Export Open the Rohr2 Interface Form.

When collecting the pipes of a pipe system to transfer to Rohr2 it is mandatory that the pipes are in a network. This means that none of the branches may be isolated by the rest of the pipe system.

The current content of the export list is displayed and highlighted in the graphical view. So it can be checked with respect to completeness, maybe one of the branches was not collected because of missing references. The highlight colour can be modified by the menu ***>Settings.***

List Pipes / List Branches Shows either Branches or Pipes for Export.

Add Ce Add all branches below the current element to the export list. ***Attention:*** It is not checked whether all elements are part of one network or whether all branches are connected correctly**.**

Add Network Appends all branches to the export list which are connected directly or indirectly to the current element**.**

Remove Ce Remove all branches below the current element from the export list**.**

Remove Network Remove all branches from the export list which are connected directly or indirectly to the current element**.**

Remove Selected Remove the selected elements from the export list**.**

Load Pipe List Fill the export list with the content of a previously saved file**.**

Save Pipe List Save the content of the export list to a file**.**

Modify Hangers Switches to the frame „Modify Hangers“ in order to assign hanger types to the single hangers**.**

Show Limits Set the limits of the graphical view to the content of the export list**.**

Show Labels Displays the support of the selected pipes in the graphical view**.**

Label Types Is only active if "Show Labels" is ticked Show the selected attribute on the support**.**

Apply Exports all selected branches. After collecting all geometry and material data the file browser is opened in order to select the name of the transfer file. The file extension must be ***.ntr.***

Additionally a second file with the extension ***.ntrerror*** is created in the transfer directory. This log file contains all information about problems or errors during the export**.**

Cancel Closes the form

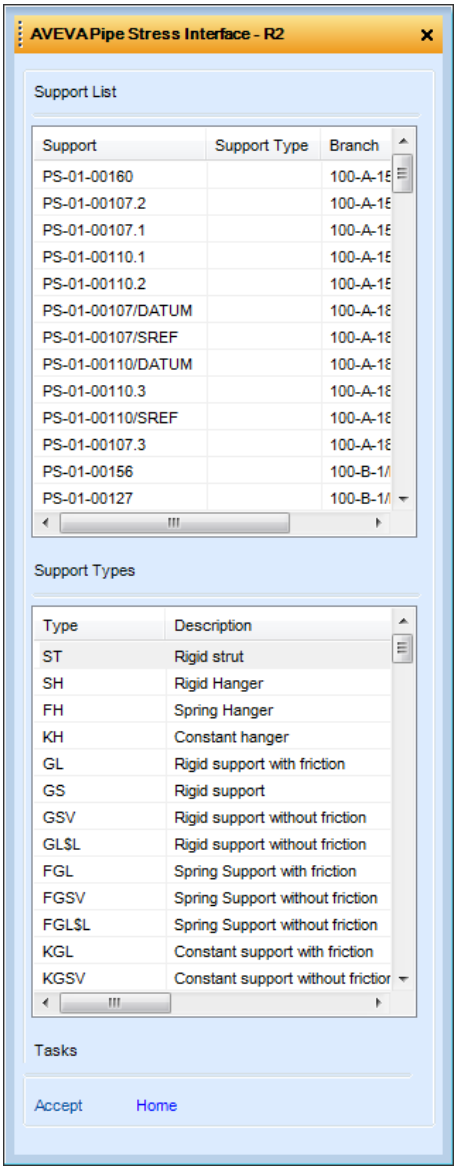
3.1.2 Subframe „Modify Hangers"

The list „Hanger list" shows all hangers of the pipe list of the main frame (ATTY unset or ATTY HANG).

The list "Hanger types" shows all possible hanger types.

By selecting the hanger points to be modified and the required hanger types and pressing the button "Set Hanger type" the respectable hanger points are modified (Attribute: USTHTYP).

Clicking the button "Home" switches back to the main frame.



3.2 *Settings for the data transfer*

The frame ***Settings*** of the Rohr2 menu opens the following form.

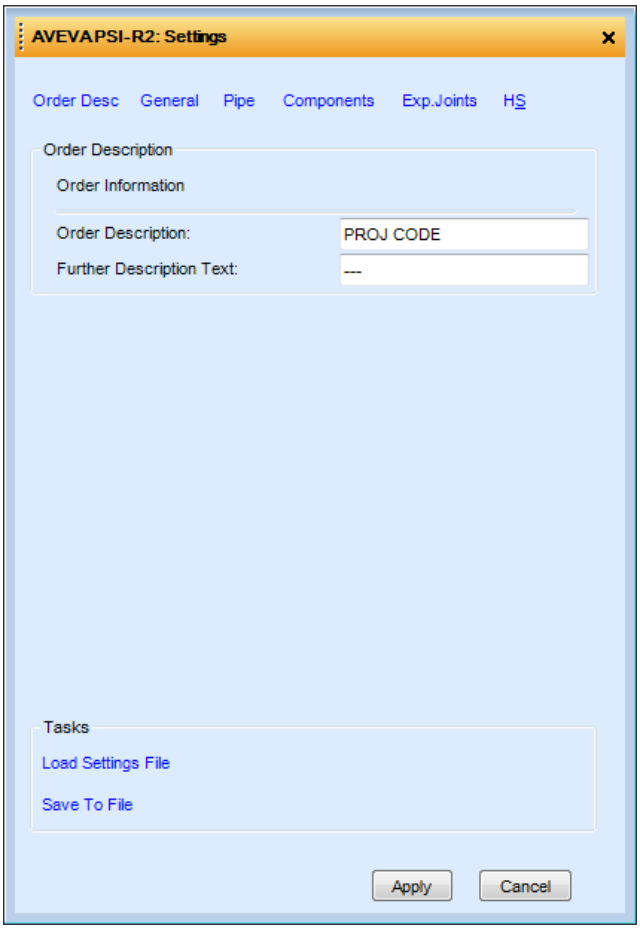
The form is opened with default values. Settings modified in that form can be saved in a central ***INI file (%R2STRESS%\rtwoexportoption.ini)*** or in a project specific ***INI file (%xyzR2STRESS%\rtwoexportoption.ini)***. After that the form will be opened with the saved values.

Load Settings File Open the file browser to load the settings from a file

Save Settings File Open the file browser to save the current settings in a file

Apply Accept the changes

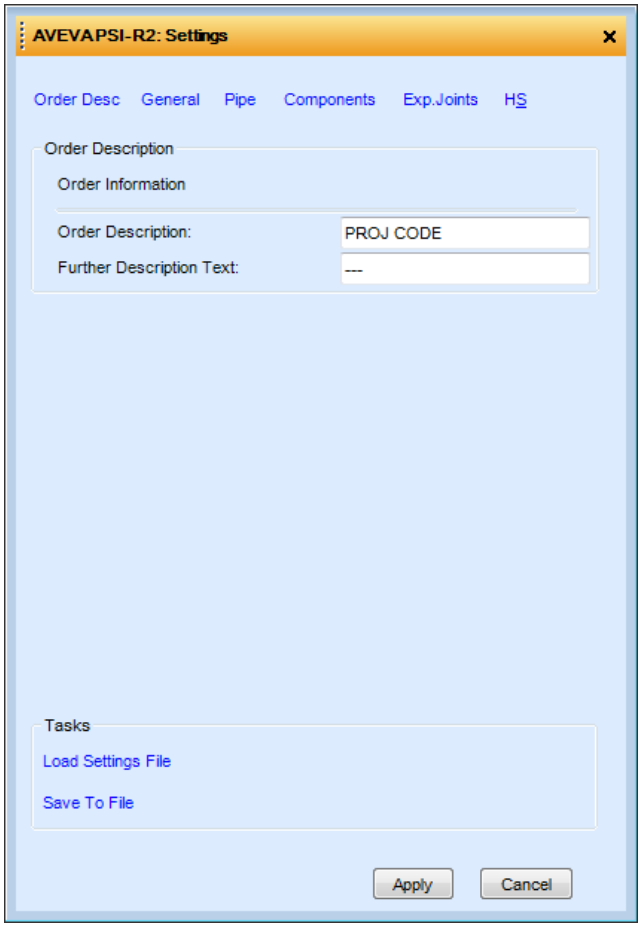
Cancel Close the form



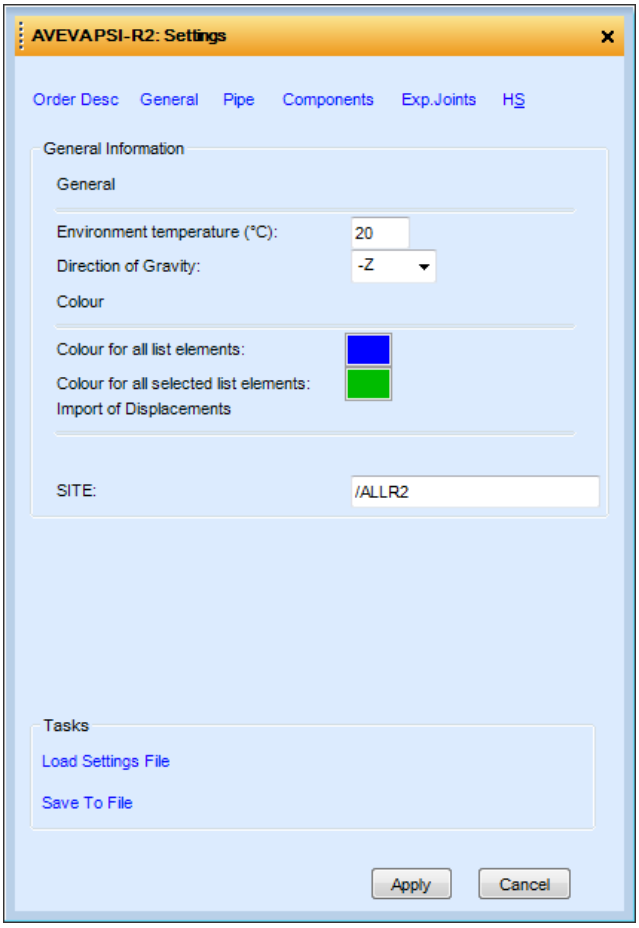
3.2.1 Order Information

In this frame of the ***Export Settings Form*** any text to describe the order can be defined. This information will be displayed in the heading of reports or drawings in Rohr2. Alternatively, AVEVA DESIGN commands (e.g.: CURRENT PROJECT) or any standard text is possible.

AVEVA DESIGN commands must be entered directly; standard texts need vertical bars as boundary ‚|'.



3.2.2 General



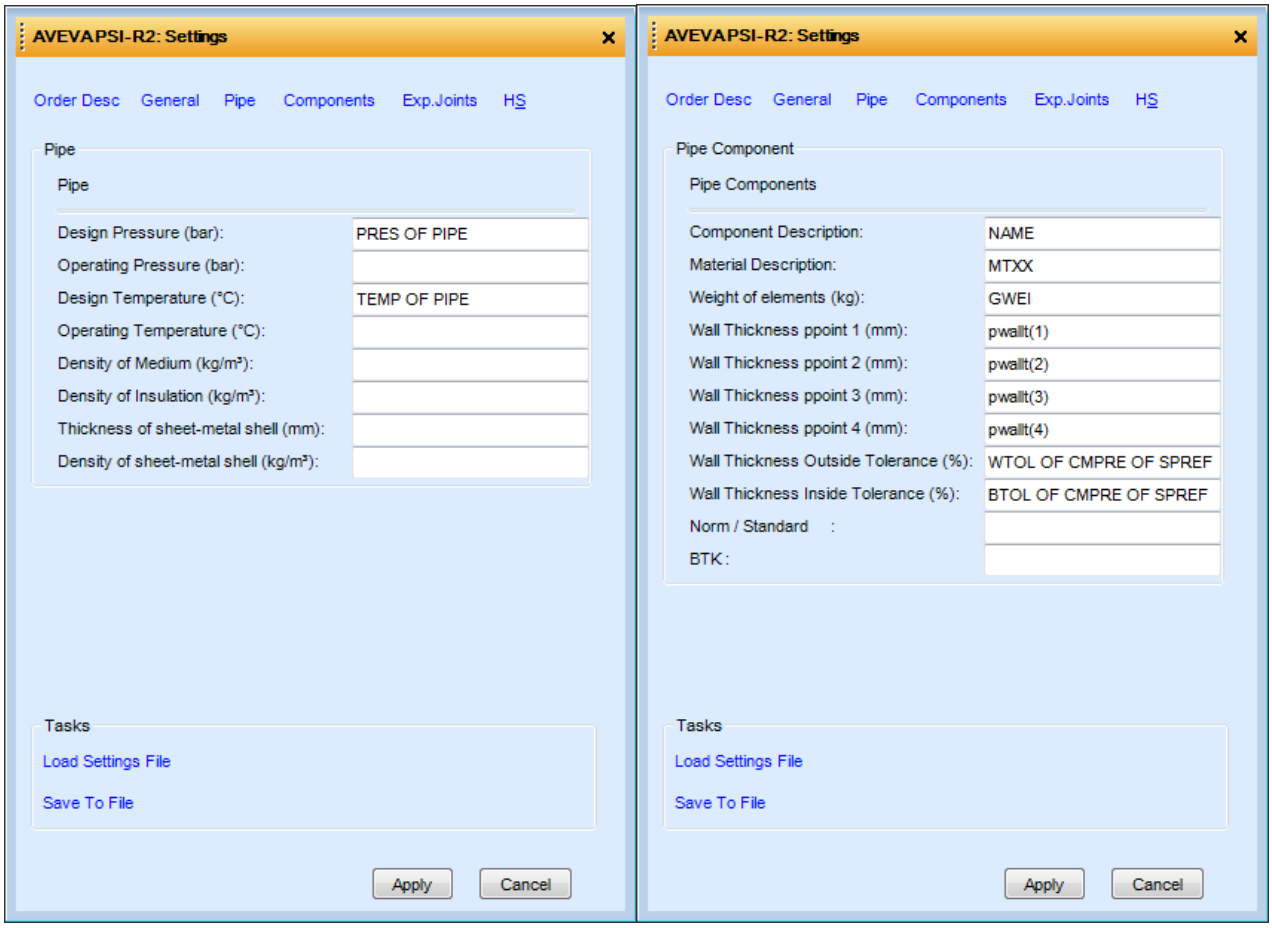
This frame is used to define the environmental temperature and direction of gravity. Possible values for the direction of gravity are ***+X, -X, +Y, -Y, +Z***, or ***–Z***. Default value is ***–Z***.

Colours Modify the colours of the export list (see chapter 3.1.1)

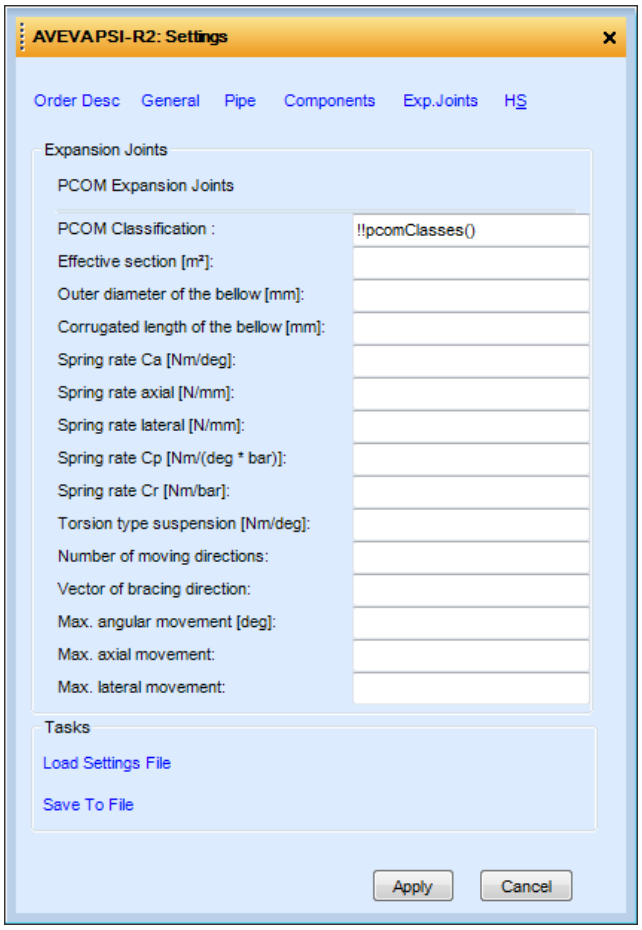
Site Defines the name of the site in which the displacement model will be read in.

3.2.3 Pipe / Pipe Components

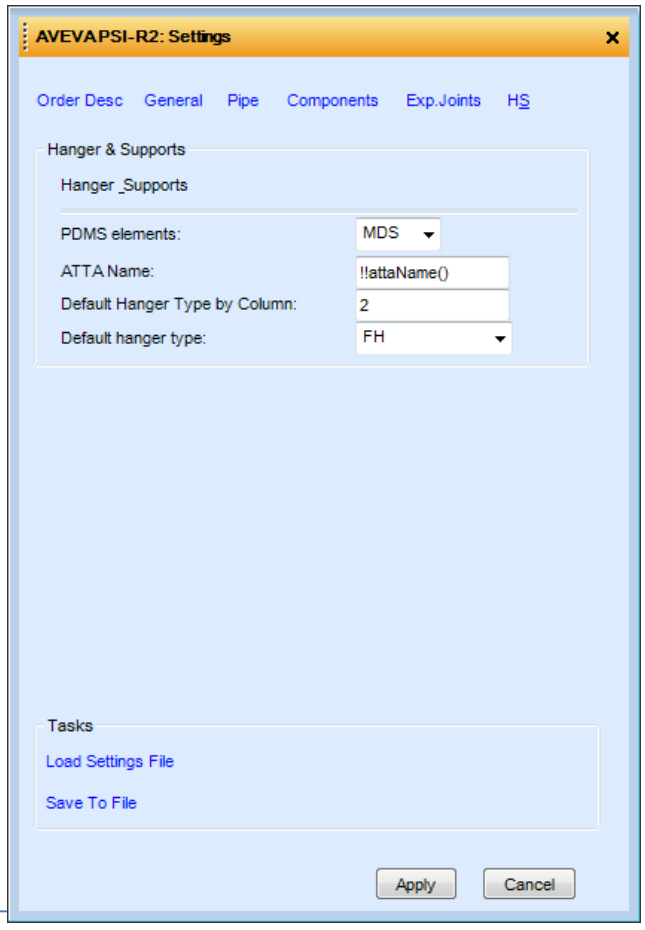
The settings should be set so that the values can be determined by Attributes or UDAs (user defined attributes) of the AVEVA DESIGN PRODUCTS elements PIPE, BRAN, BRAN MEM or of their referenced elements like SPEC or SPCO.



3.2.4 Expansion Joints, Tab Exp. Joints



3.2.5 Hanger + Supports, Tab HS



The AVEVA DESIGN PRODUCTS elements ATTA/SHU/MDS (-Atta) can be used for hanger or support points. Default value is the *Atta*chment point.

*Atta*chment points are only transferred to Rohr2, if the value of the attribute ATT type is set to „HANG“, „NULL“ or „“ (empty/unset) and additionally the value of the attribute FStatus is not set to „INSULATION“.

Both elements are provided with the UDAs: USTHTYP (hanger type) and: USTSCHTYP (stress calculated hanger type).

The UDA: USTHTYP can be used by the pipe designer to define a hanger type before the stress calculation.

The selection is limited by the hanger types of the company Witzenmann.

The UDA: USTSCHTYP is set by Rohr2 and contains the hanger type after the stress calculation by Rohr2. If there is an equivalent hanger type of the company Witzenmann, the UDA: USTHTYP will be overwritten during the import process of the Rohr2 data.

When transferring geometry to Rohr2 the UDA: USTSCHTYP is checked for a hanger type that had already been transferred from Rohr2. In that case it would be transferred to Rohr2 again. If the UDA does not contain a valid value, then the UDA: USTHTYP is analysed and transferred if necessary. If this UDA also does not contain a valid value then the standard hanger type from the *Settings Form* will be used.

The advantage of that procedure is that the pipe designer does not have to define any hanger types in the AVEVA DESIGN PRODUCTS. The stress calculator gets the chance to define a default hanger type for the first stress calculation in Rohr2. For example, it is possible to define a constant hanger for steam pipes or a friction-type bearing for water pipes as a default. The following alternatives can be selected in the *Settings Form*:

- Constant hanger **<Standard>**
- Rigid hanger
- Friction-type bearing
- Spring hanger

3.2.6 Userfunctions

To be more flexible, complex structure can be implemented in the R2 interface

ATTA Name !!attaname() und PCOM Classification !!pcomClasses() are shown in the settings form.

Both are provided as an example and placed in the PMLLIB path below userfunction.

Please see here !!attaname() as an example:

---

define function !!attaName() is string

```
   if !!ce.type.eq('ATTA')    then
      return !!ce.stext & '-' & !!ce.:mdssuppfunc
   else
     return !!ce.name
   endif
endfunction
```

---

4. Displaying the thermal displacements

One result of the stress calculation in Rohr2 is the displacements based on thermal influences on the whole pipe system. These displacements can be displayed in the AVEVA DESIGN PRODUCTS.

For each loading case a separate model containing equipment elements with nozzles are created. These models can be displayed together with the original pipe.

In order to read in the displacement files a design database with write access must be selected. In this database a site (in the example /R2) must be created. The attribute PURPOSE of that site must get the value DISP.

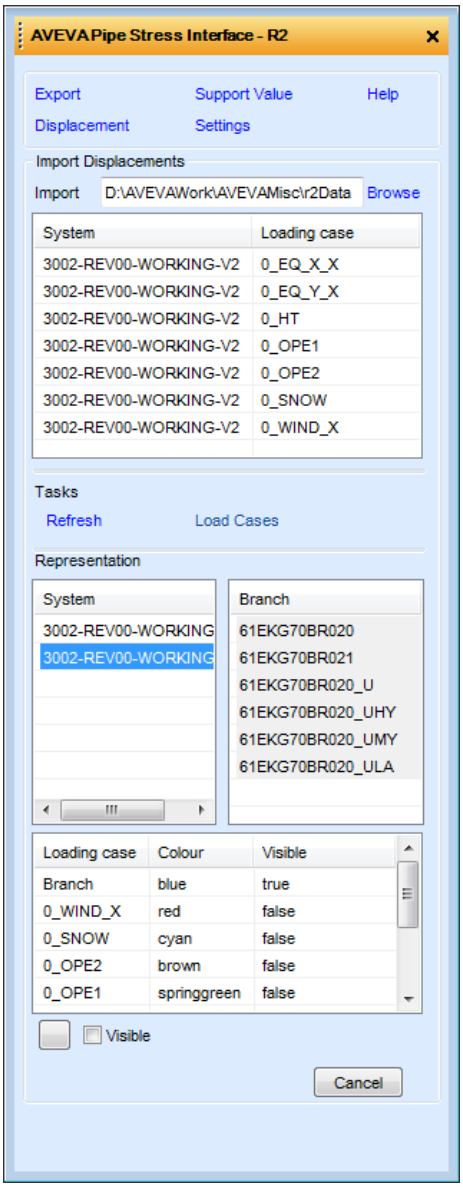
If there is such a site in a read/write database it will be displayed in the form.

It must be taken into account, that the imported models of the loading cases will cause hard clashes inside the AVEVA DESIGN PRODUCTS. Therefore it is recommended to import the model in database that is not always current, only temporarily to check the loading cases.

As mentioned above, the loading case models are based on parameterised NOZZles (in the shape of a dumb-bell). The nozzles represent two adjacent calculation points and the direct line between these two points with two spheres and one cylinder. The “pipe” can also be shown with the insulation. In order to display the insulation the transparency of Obstruction and Insulation should be set to 50% in the graphical representation form (***>****Settings>Representation*) in the main menu of AVEVA DESIGN PRODUCTS.

4.1 Import and display of the displacement models

Import Displacement / Import of Displacement opens the form shown here.



For each loading case of a calculated pipe system Rohr2 writes one ASCII file with the extension ***.r2disp*** in the transfer directory. These files contain the position with the movement in x, y, and z direction for each calculation point.

These files are displayed in the area *Import* sorted by the pipe systems and the respective loading cases. The list can be refreshed.

Select the loading cases to be imported and press *Create Loading Cases*. The files will be read and imported to the database. The following hierarchy will be created:

Type	*Name*	*Beschreibung*
SITE	/DISP	
ZONE	/DISP_28MAW30	This ZONE contains all loading cases of the system 28MAW30
EQUI	/DISP_28MAW30_DL	This ***EQUI*** contains the loading case DL
SUBE	…/F0HAC10BR011/B1	The ***SUBE***quipment contains the branch /F0HAC10BR011/B1 of the loading case DL.
NOZZ	…/F0HAC10BR011/B1_260-280	The ***NOZZ***le represents the connection between the calculation points 260 and 280.

After importing the loading cases the Import area of the form will be updated and the area Graphical Representations will be filled with the content of the database.

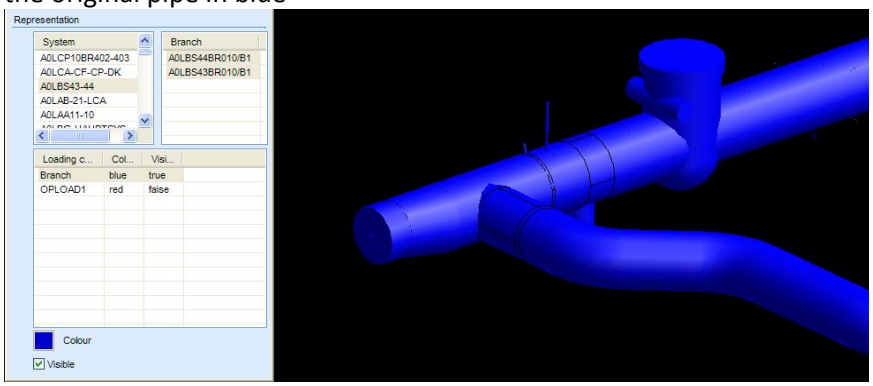
During the import the imported files will be renamed from ***.r2disp*** to ***.r2dispold***.

The imported loading cases are shown per pipe system. For each pipe system the single loading cases and all branches of that system are listed. The display of the loading cases can be switched on and off and can superimposed with the original branch (Showing Branch). The colours can be adjusted individually.

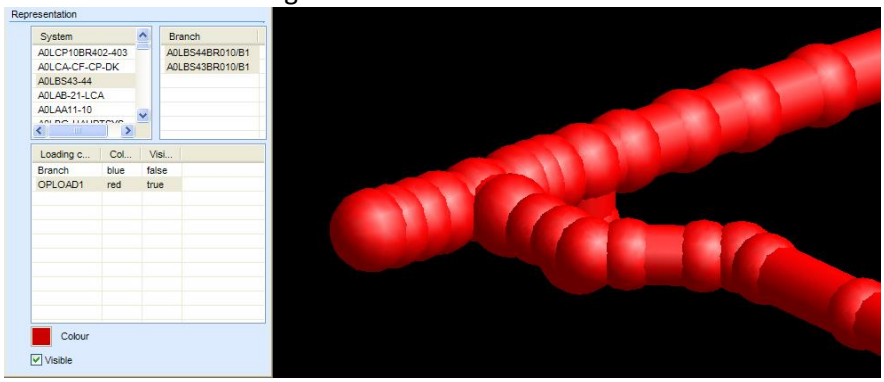
Only branches selected in the branch list (Branches) are shown in the graphical view. Selecting the System again will update the graphical view with all branches of the system.

Example of superimposing a pipe with their calculated load cases

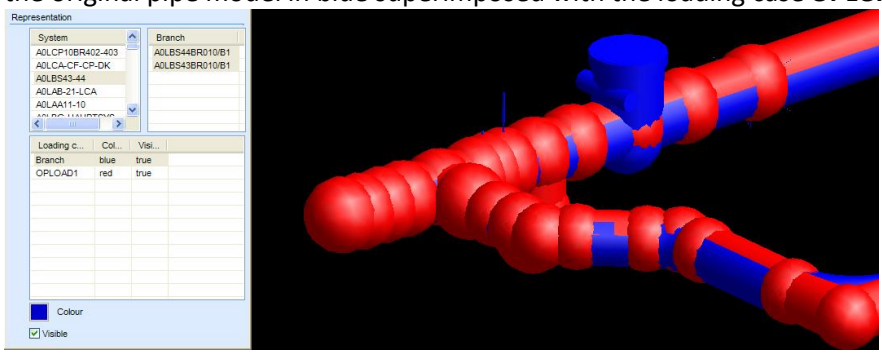
- the original pipe in blue



- the model of the loading case ***OPLOAD1*** in red

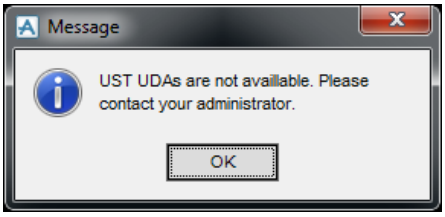


- the original pipe model in blue superimposed with the loading case ***OPLOAD1*** in red



4.2 Error messages during the import of displacement files

If the UST-UDAs are not available, a message will be shown to contact the system administrator. Without the UDAs the interface will not work.



The error can be caused by:

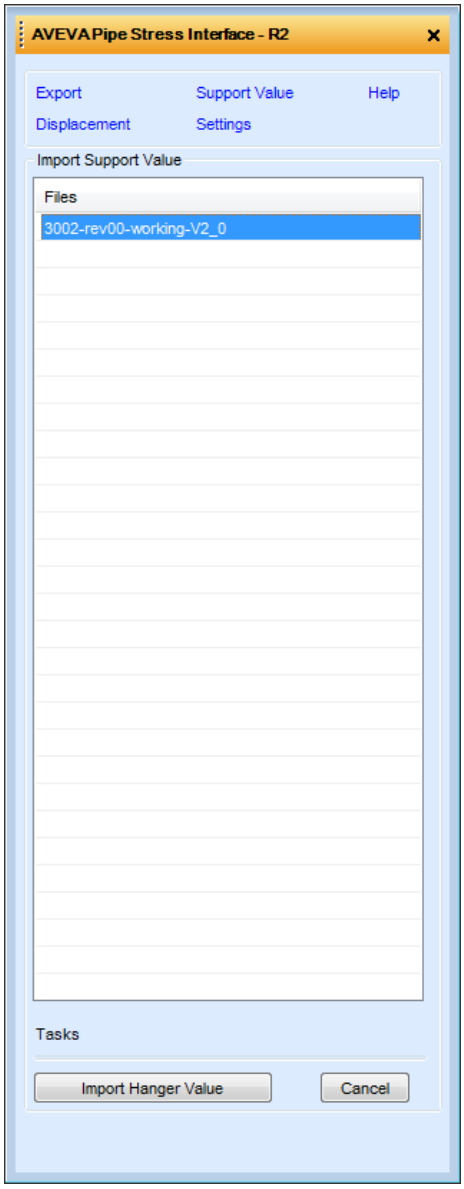
- The respective *DICT* database was not created in the module *ADMIN*.
- The respective *DICT* database was not included in the current *MDB* or is *deferred*.
- The required UDAs are not included in the DICT database. Please see chapter 1.4.1. for details
- The *DICT* database was not compiled.

5. Import of hanger attributes

For design and construction of pipe hangers and supports Rohr2 delivers design data. The design data for the hanger points of all pipe systems are stored in ASCII files with the extension ***.r2hangprop*** in the communication directory ***%R2STRESS%*** or ***%xyzR2STRESS%*** respectively. The values are transferred to the attributes of the corresponding *ATTA*chment Points.

5.1 Form for the import of the hanger point data

The following form is opened by *Import Displacement / Import of Support Value* of the main menu of AVEVA DESIGN PRODUCTS.



The form will only be shown if there is at least one ***.r2hangprop*** file in the communication directory. Otherwise there will be a warning that no files with hanger point data are available.

The ***.r2hangprop*** files contain all design data of hanger points of a calculated pipe system. If all design data of hanger points can be transferred without errors, the files are renamed from ***.r2hangprop*** to ***.r2hangpropold***.

If the user does not have write access to at least one of the hanger points (***locked, claimed***) or if the hanger point is in a read-only database, then a form is opened with a list of hanger points that could not be updated. In this case the file is not renamed so that another attempt can be carried out later. Detailed information of errors will be written in a file with the extension ***.r2hangerror.*** The error file is created in the ***%xyzR2STRESS%*** directory or ***%R2STRESS%*** directory, respectively.

5.2 Definition of the transferred data

The following attributes of *ATTA*ment points are set:

UDA name	*Example*	*Description*
:USTDYNLOAD	**1.8 2.6 3.8**	Dynamic load in x, y, z direction [kN]
:USTEREPORT	**|Rep No 124711|**	Elasticity report [text: max. 120 characters]
:USTFORCE	**10 5.6 7.8**	Forces in x, y, z direction [kN]
:USTHCOMP	**|507845|**	Part number of the spring or constant hanger
:USTMAXTRAVEL	**3.6**	Max. Movement [mm]
:USTMOVEMENT	**2.1 3.5 0.7 3.4 4.3**	1. value: Movement in x direction [mm] 2. value: Movement in y direction [mm] 3. value: Movement in z direction [mm] 4. value: positive dynamic movement [mm] 5. value: negative dynamic movement [mm]
:USTNODENUMB	**1023**	Node number of the hanger point
:USTSRATE	**4.5**	Spring rate [N/mm]
:USTSTATLOAD	**7.8**	Static load [kN]
:USTTESTLOAD	**4.3**	Water test load [kN]

5.3 Hanger types

The UDAs: USTHTYP and: USTSCHTYP contain abbreviations of the descriptions of the hanger constructions. The UDA: USTHTYP describes the design-engineering whereas the UDA: USTSCHTYP describes the calculated mode of operation at the hanger point.

The UDA: USTHTYP is used to define a pre-selection for the later hanger design. This pre-selection will be used in the software Cascade of the company Witzenmann GmbH, Pforzheim (Germany), e.g. the UDA value *KH* will lead to a constant hanger.

The following table shows that there are some Rohr2 definitions with no corresponding Witzenmann hanger type (none). In such a case the definition must be done in the program Cascade.

This table gives an overview of the most common types.

Description	***Witzenmann***	***Rohr2***
UDA:	*:USTHTYP*	*:USTSCHTYP*
General clamp	**AC**	**none**
Rigid support	**GS**	**GS**
Rigid hanger	**SH**	**SH**
Spring hanger	**FH**	**FH**
Constant hanger	**KH**	**KH**
General rigid support	**GS**	**ST**
Fix point	**FP**	**FP**
Friction bearing vertical	*None*	**GL**
Lateral thrust bearing vertical	*None*	**FL**
Axial stop	*None*	**AX**
Lateral stop horizontal	*None*	**QS**
Stauff-clamp	**SC**	**none**
Friction bearing + Axial stop vertical, axial	*None*	**GLAX**
Thrust bearing + Axial stop all movements	*None*	**FLAX**
Lateral stop + Axial stop horizontal lateral, axial	*None*	**QSAX**
Thrust bearing vertical, guiding in the global x axis	*None*	**FLVX**
Thrust bearing vertical, guiding in the global y axis	*None*	**FLVY**
Thrust bearing vertical, guiding in the global z axis	*None*	**FLVZ**
Thrust bearing vertical, guiding in the global x and y axis	*None*	**FLVXY**
Thrust bearing vertical, guiding in the global x and z axis	*None*	**FLVXZ**
Thrust bearing vertical, guiding in the global y and z axis	*None*	**FLVYZ**
Lateral stop in vertical pipe	*None*	**QSV**
Lateral stop in vertical pipe in the global x axis	*None*	**QSVX**

Description	***Witzenmann***	***Rohr2***
UDA:	*:USTHTYP*	*:USTSCHTYP*
Lateral stop in vertical pipe in the global y axis	*None*	**QSVY**
Lateral stop in vertical pipe in the global z axis	*None*	**QSVZ**
General Spring support	*None*	**FS**
Spring support	**FS**	**FGL**
Spring support + guidance	*None*	**FFL**
Spring support + axial stop	**FS**	**FGLAX**
Spring support + guidance + axial stop	**FS**	**FFLAX**
Spring support + guidance in vertical and global x direction	**FS**	**FFLVX**
Spring support + guidance in vertical and global y direction	**FS**	**FFLVY**
Spring support + guidance in vertical and global z direction	**FS**	**FFLVZ**
Spring support + guidance in vertical and global x and y direction	**FS**	**FFLVXY**
Spring support + guidance in vertical and global x and z direction	**FS**	**FFLVXZ**
Spring support + guidance in vertical and global y and z direction	**FS**	**FFLVYZ**
Constant support	**KS**	**KGL**
Constant support + guidance	**KS**	**KFL**
Constant support + axial stop	**KS**	**KGLAX**
Constant support + guidance + axial stop	**KS**	**KFLAX**
Constant support + guidance in vertical and global x direction	**KS**	**KFLVX**
Constant support + guidance in vertical and global y direction	**KS**	**KFLVY**
Constant support + guidance in vertical and global z direction	**KS**	**KFLVZ**
Constant support + guidance in vertical and global x and y direction	**KS**	**KFLVXY**

Description	***Witzenmann***	***Rohr2***
UDA:	*:USTHTYP*	*:USTSCHTYP*
Constant support + guidance in vertical and global x and z direction	**KS**	**KFLVXZ**
Constant support + guidance in vertical and global y and z direction	**KS**	**KFLVYZ**
General pivot support	**GS**	**GS**
Rigid pivot support vertical	**GS**	**GSV**
Rigid pivot support lateral	**GS**	**GSQ**
Rigid pivot support axial	**GS**	**GSAX**
Rigid pivot support in vertical pipe lateral in global x direction	**GS**	**GSQVX**
Rigid pivot support in vertical pipe lateral in global y direction	**GS**	**GSQVY**
Rigid pivot support in vertical pipe lateral in global z direction	**GS**	**GSQVZ**
Elastic pivot support vertical	**FS**	**FGSV**
Elastic pivot support lateral	**FS**	**FGSQ**
Elastic pivot support axial	**FS**	**FGSAX**
Elastic pivot support in vertical pipe lateral in global x direction	**FS**	**FGSQVX**
Elastic pivot support in vertical pipe lateral in global y direction	**FS**	**FGSQVY**
Elastic pivot support in vertical pipe lateral in global z direction	**FS**	**FGSQVZ**
Constant pivot support vertical	**KS**	**KGSV**
Constant pivot support lateral	**KS**	**KGSQ**
Constant pivot support axial	**KS**	**KGSAX**
Constant pivot support in vertical pipe lateral in global x direction	**KS**	**KGSQVX**
Constant pivot support in vertical pipe lateral in global y direction	**KS**	**KGSQVY**
Constant pivot support in vertical pipe lateral in global z direction	**KS**	**KGSQVZ**

**none* means „undefined“

The 3D designer can choose a particular hanger construction for the calculation in Rohr2.

5.3.1 Transfer from AVEVA DESIGN PRODUCTS to Rohr2

If a hanger was calculated with Rohr2 the UDA: USTSCHTYP contains this calculated data. If the hanger point is transferred to Rohr2 again this data will be used.

If this UDA is empty or contains invalid data the UDA :USTHTYP will be transferred to Rohr2 if it is valid.

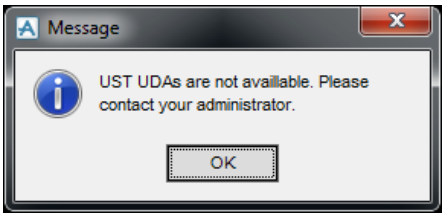
If both UDAs contain invalid data the default standard hanger type will be transferred.

5.3.2 Transfer from Rohr2 to AVEVA DESIGN PRODUCTS

During the transfer procedure of the Rohr2 data the calculated hanger type is written to the UDA: USTSCHTYP. Additionally, the Witzenmann hanger type is determined and written to the UDA: USTHTYP.

5.4 Error messages

If the UST-UDAs are not available, a message will be shown to contact the system administrator. Without the UDAs the interface will not work.



The error can be caused by:

- The respective *DICT* database was not created in the module *ADMIN*.
- The respective *DICT* database was not included in the current *MDB* or is *deferred*.
- The required UDAs are not included in the DICT database. Please see Chapter 1.4.1. for details
- The *DICT* database was not compiled.

As mentioned above, it is possible that user do not have write access to some ATTA elements due to claims or locks or due to general read-only access.

In addition to the error messages all ATTA or SHU elements that could not be transferred are listed in an error form. The reasons for the single errors are listed in an ***.r2hangerror*** file.

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